



SIEMENS

Ingenuity for life

Assess, Monitor, Control

Valve Testing and Predictive Maintenance through the SIPART PS2. with the "Fail Safe" or "Fail in Place" options.

The SIPART PS2 -the most widely used intelligent electro-pneumatic valve positioner for linear and rotary valve actuators demonstrates the versatility and reliability that you've come to expect from Siemens. It also has the ability to improve control valve life and performance via the on-board advanced diagnostics.

Siemens believes that valve diagnostics are essential to the proper operation of a valve and includes them with every SIPART PS2. Utilize these features to reduce the cost of shutdowns, valve maintenance and valve inefficiencies. Implement these features to provide predictive maintenance in the plant.



Partial Stroke Test and Full Stroke Test

Emergency shutdown valves are integral to plants across all industries. They are engineered to operate and reduce the impact of failure/emergency situations. In the event of an emergency, the failure of these valves to operate correctly carries huge financial and logistical consequences. To ensure proper emergency valve operation, partial stroke tests are conducted. With the SIPART PS2, you not only have Partial Stroke Test capabilities but also a Full Stroke Test.

Step Response Test & Multi Step Response Test

The SRT and MSRT are tests used to monitor valve performance at specific set points and / or step changing set point values. They provide valve breakout time which is the difference between the time an input signal was provided and the time the valve started to move. They also provide step response times for the valve at 63%, 86%, and a third "custom" percentage. Valve overshoot and settling times are also included in these tests. You can use this data to determine your valve performance and then make adjustments as necessary to improve it.

Valve Performance Test via HART 7

The VPT is designed to be a comprehensive valve test that allows a user to monitor performance over time. This concept allows you to implement predictive maintenance throughout

Test	Value	Unit	Min	Max	Target	Pass/Fail
Breakout Time	0.15	s	0.1	0.2	0.15	Pass
Step Response Time (63%)	0.25	s	0.2	0.3	0.25	Pass
Step Response Time (86%)	0.35	s	0.3	0.4	0.35	Pass
Settling Time	0.5	s	0.4	0.6	0.5	Pass
Overshoot	1.2	%	1.0	1.4	1.2	Pass
Linearity	98	%	95	100	98	Pass
Repeatability	0.5	%	0.4	0.6	0.5	Pass

Valve Performance Test results

a plant by helping you determine how often maintenance is required on each valve. The VPT is an offline test that runs three cycles and collects 66 different measuring points. That information is then used to calculate multiple data points (based on the IEC 61298-2 valve performance spec). These include key data points such as hysteresis, linearity, and repeatability.

Additional Diagnostic Data

The SIPART PS2 records additional maintenance data. This includes complete valve strokes, directional changes, fault messages, alarms, operating hours, stroke times, air leakage, temperature, trends for control deviation and feedback and histograms. This information is very useful and helps to assess the total life of the valve and valve positioner.

Please contact a Siemens representative to learn more about these features. Employ the SIPART PS2 to work for you!

Let us show
you what
better is.



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